

Sub A

WHAT IS CLAIMED IS:

1. A tire tread die comprising an outer tread passage for forming an electrically non-conductive rubber outer tread, a lower undertread passage for forming a lower layer of electrically conductive rubber characterized by:
 - 5 (a) a chimney block mounted in said outer tread passage and extending from an inner surface to an outer surface of said passage;
 - (b) a chimney block opening extending from one end of said chimney block to an opposite end;
 - 10 (c) an undertread orifice in said outer tread passage in communication with said lower undertread passage and with said chimney block opening;
 - (d) a slot in a downstream side of said chimney block in communication with said chimney block opening and extending between said one end and said opposite end of said chimney block for communicating a narrow strip of said undertread layer to said outer tread in said outer tread passage;
 - 15 (e) a final die downstream of said outer tread passage and said lower undertread passage for receiving said lower undertread layer and said outer tread with said narrow strip of lower undertread layer extending from said undertread to an outer surface of said outer tread.
- 20 2. A tire tread die in accordance with claim 1 further characterized by said lower undertread passage having a recess at said lower undertread opening for guiding said undertread of electrically conductive rubber into said chimney block opening.
- 25 3. A tire tread die in accordance with claim 1 further characterized by said chimney block opening being a hole drilled through said chimney block into said lower undertread passage.
- 30 4. The tire tread die of claim 1 further characterized by said chimney block

being welded to an upper plate of said outer tread passage to provide said narrow strip of said undertread layer in said outer tread without smearing.

5. The tire tread die of claim 1 further characterized by said chimney block having a flow separating protrusion at an upstream side of said chimney block.

5

6. The tire tread die of claim 5 further characterized by said protrusion having a flow splitting tapered end at said upstream side and tapered walls from said upstream side to said downstream side of said chimney block to divert the flow of said outer tread around said chimney block.

10

10 A method of forming a tire tread with at least one lower undertread layer of said layer electrically conductive lower rubber and an upper tread of electrically nonconductive rubber having a narrow strip of electrically conductive undertread rubber extending from said undertread to the surface of said upper tread comprising:

15 (a) conveying said electrically conductive rubber of said lower undertread layer through a first passage of a tire tread die;
(b) conveying said nonconductive rubber of said outer tread through a second passage of said tire tread die;
20 (c) diverting a portion of said electrically conductive rubber of said lower undertread layer from said first passage to said second passage through an undertread opening in said first passage;

25 (d) conveying said electrically conductive rubber of said lower undertread layer from said undertread opening to a position extending across said second passage in an opening of a chimney block extending between opposite surfaces of said second passage;

(e) conveying said electrically conductive rubber of said lower undertread layer from said second passage through a slot in said chimney block opening to form said narrow strip in said upper tread; and,

30 (f) conveying said lower undertread layer and said upper tread with said

narrow strip into a final die having an opening in communication with said first passage and said second passage to position said upper tread with said narrow strip over said lower undertread layer and provide electrical conductivity of said tread.

5 8. The method of claim 7 further characterized by providing a reservoir of said lower undertread layer of electrically conductive rubber in said chimney block to supply said slot with said undertread of electrically conductive rubber.

9 9. The method of claim 7 further characterized by diverting said
10 electrically conductive rubber of said lower undertread layer from said first passage to said second passage through a recess in the surface of said first passage in communication with said second passage for guiding said electrically conductive rubber of said lower undertread layer into said second passage.

15 10. The method of claim 7 further characterized by providing a reservoir of said electrically conductive rubber of said lower undertread layer in said chimney block opening for supplying a continuous flow of said electrically conductive rubber of said lower undertread layer through said slot to form said narrow strip.